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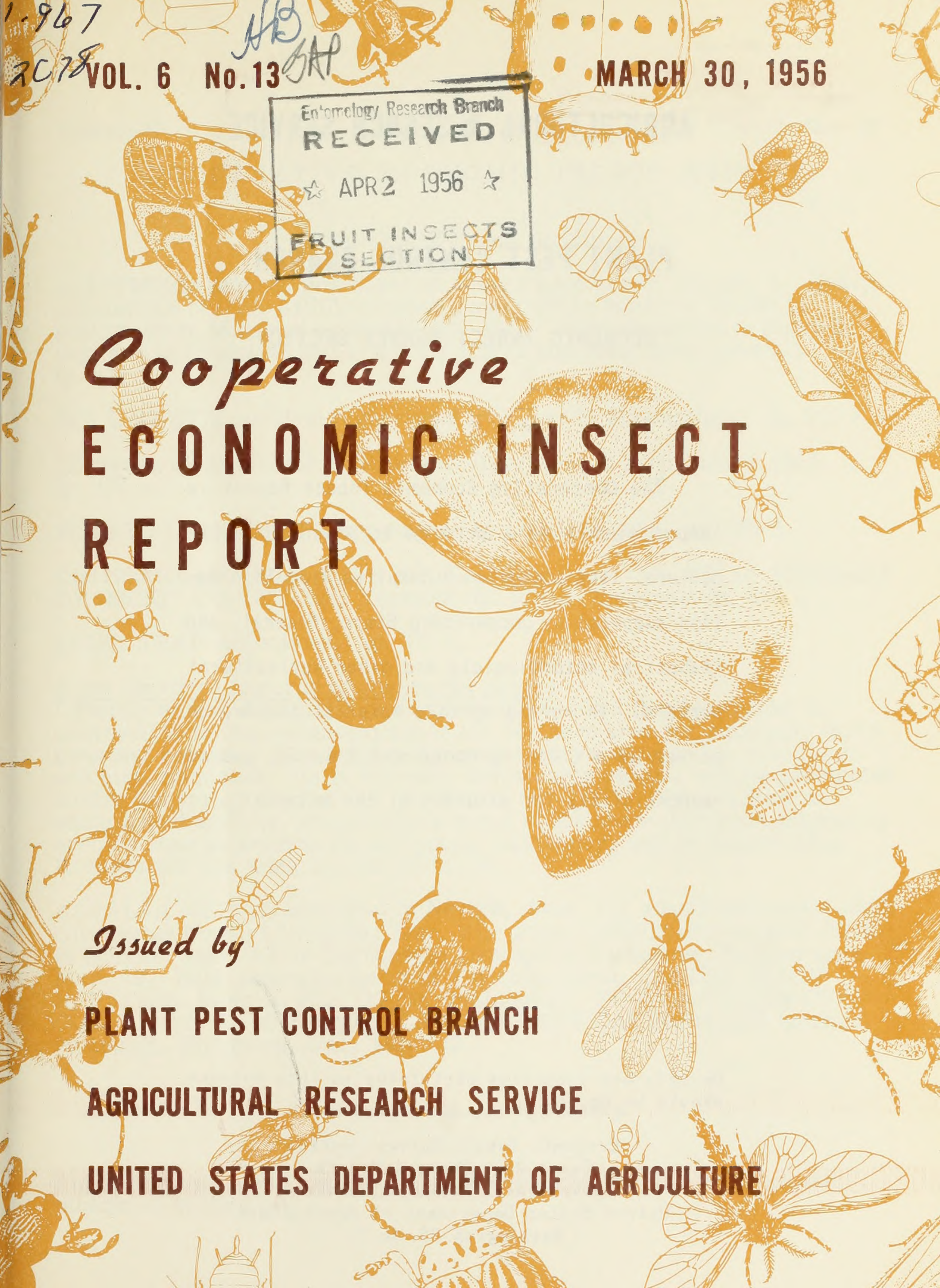

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Branch
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Volume 6 March 30, 1956 No. 13

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

ARMYWORM moth flights heavy in some Texas areas. (p.264). Heavy populations of PEA APHID causing considerable injury to alfalfa in southwestern Missouri counties. (p. 264). Also moderate to heavy in legumes in Louisiana and attacking alfalfa and vetch most severely. (p. 264).

BOLL WEEVIL survival higher than last year in Mississippi. (p. 270).

Losses to SUGARCANE BORER was 18 percent in Louisiana in 1955. (p. 262).

POTATO LEAFHOPPER appearance by states in 1955. (p. 265).

Distribution of THREE CORN ROOTWORMS (Map). (p. 263). SUMMARY OF INSECT CONDITIONS, Vermont (p. 273), Wisconsin (p. 274).

LIGHT TRAP collections. (p. 272).

First Reported Records of Season (by areas)

Recently an entomologist in a northern State asked that his thanks be conveyed to fellow entomologists in the southern area for supplying early seasonal records. The information was very valuable to his associates and him, he stated. As in the past, these early reports will be assembled during the spring months and included in the CEIR. Observations on early insect activity, especially on some of the more important migratory species such as armyworm and potato leafhopper, will be appreciated. Records for this week are shown below.

ALFALFA WEEVIL emerging in Nevada, Mar. 17; adults and larvae taken Gloucester County, Virginia, Mar. 21. First TARNISHED PLANT BUGS in Illinois, Mar. 20 in Carbondale area and in Vincennes, Indiana area Mar. 19. Stink bugs also found in Vincennes area. GREEN PEACH APHID eggs hatching Mar. 17, in Washington. First adult PLUM CURCULIO, Mar. 15 in Georgia. EASTERN TENT CATERPILLAR hatching on apples, Richmond, Va., Mar. 12.

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Reports in this issue are for the week ending March 23, 1956, unless otherwise designated.

WEATHER FOR THE WEEK ENDING MARCH 26, 1956

Mild, springlike weather prevailed over the western part of the Nation, while eastward from the Plains States temperatures averaged below normal and winter conditions continued. For the second consecutive week snows fell in the Northeast from the Great Lakes Region through New England. The first disturbance, developing in the Central Plains on March 22, deposited snowfalls from 1-3 inches in Minnesota, 5-7 inches in parts of Wisconsin, Michigan, and in interior New York, and up to 10 inches in portions of New England before dissipating Saturday night. Additional, but lighter snows, beginning Sunday over the Appalachians from West Virginia to New York, extended into southern New England by Monday. High pressures which dominated the eastern part of the country most of the week were accompanied by freezing temperatures which extended well into the South on several days. Considerable frost damage to peach and other fruit blooms was reported in Alabama, Georgia, North and South Carolina, and to truck crops in northern Florida. Average weekly temperature departed from normal by as much as +16° at Pocatello, Idaho, and +15° at Miles City, Montana, in contrast to -14° at Syracuse and Albany, New York, and -13° at Savannah, Georgia. On March 24 Salt Lake City Airport, Utah recorded a new high of 78° for that station for the month. On the same day, the stations at Billings, Montana, Casper, Wyoming, Prescott and Tucson, Arizona, also recorded the highest temperature for so early in the season.

On March 21, a squall line moved through kicking up dust in the West, dumping heavy hail in parts of the Rio Grande Valley and triggering several tornadoes along the Coastal bend and in Central areas. Heavy to moderate rains fell over areas of Louisiana, Arkansas, and Oklahoma as the front progressed. Weekly precipitation amounts were also moderate to heavy along the Atlantic Coast from New Jersey to southern Maine, the Pacific Coast from central Oregon through Washington, and in a few isolated areas. Little or no measureable precipitation fell in the Southwest, the Western Great Plains, or the extreme Southeast. Rain is needed badly in Florida, southern California and in the Plains States as far eastward as the Mississippi Valley, and minor duststorms were reported in Nebraska, Kansas and Oklahoma. Near record snow depths for this time of the year still cover most of New England, while in the West continued warming has decreased depths considerably, except at higher elevations. North Dakota reports nearly all snow gone in the south and west, and ice moving out of smaller streams. The greatest snow depth reported for lower elevations is now 28 inches at Rumford, Maine. Snow depths for stations at higher elevations are 373 and 275 inches in Washington at Paradise Ranger Station and Mount Baker Lodge respectively, 96 at Twin Lakes, California, 167 at Crater Lake, Oregon, 43 at Greenville, Maine, 34 at Bethlehem, New Hampshire and 21 inches at Lake Placid, New York. (Summary Supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - KANSAS - None found on wheat or barley in the following counties: Hodgeman, Pawnee, Barton, Rice, McPherson, Marion, Geary, Riley, Clay, Cloud, Ottawa, Chase, Lyon and Wabaunsee. (Frazier, Matthew). OKLAHOMA - Damage in occasional fields in Oklahoma, Lincoln, Pottawatomie, Cleveland, McClain, Grady, Caddo and Canadian Counties. Counts of 3,000 to 5,000 per linear foot of row in one or two fields in Cleveland and Caddo Counties. No greenbugs in northwestern areas. (Frazier, March 17). Eight of 11 fields examined in Kiowa County were infested with populations in two fields heavy. (Hudson). Heavy populations in some oat fields in McClain County, damage slight. (Coppock). TEXAS - Heavy damage in one field of oats near Terrell. (Randolph). Heavy widespread populations on small grain in Van Zandt County. All fields highly parasitized. Light widespread populations on small grain in Kaufman County. (Hawkins). ARKANSAS - Infestations on small grain as far east as Lincoln County. No general infestations of economic proportions. (Warren). LOUISIANA - Populations light in oats and barley over State. Predators and parasites keeping infestations down. (Oliver).

ENGLISH GRAIN APHID (Macrosiphum granarium) - ARIZONA - Economic infestation on 75 acres of barley south of Eloy, Pinal County, March 18. (Ariz. Coop. Rept.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - FLORIDA - Nymphs and adults averaging 4 per 50 sweeps on oats at Gainesville, Alachua County. (Mead).

APHIDS - MISSOURI - No evidence of greenbug or English grain aphid found on wheat or barley in southwest quarter of State. (Kyd, Thomas). GEORGIA- Heavily infesting alfalfa in Putnam and Oconee Counties. (Johnson). SOUTH CAROLINA - Heavy infestations killing grain on approximately 20 acres of oats in Laurens County. (Nettles).

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Rechecks of 10 survey stops revealed only 65 to 70 percent as many live bugs per square foot as in November, 1955. (Petty et al.).

LEAFHOPPERS - TEXAS - Heavy local populations on irrigated oats in Blanco County. (Patterson).

BROWN WHEAT MITE (Petrobia latens) - UTAH - Began hatching in Salt Lake Valley March 16-19. Local populations still small. (Lieberman). KANSAS - Heavy populations in wheat fields of Meade, Seward and Stevens Counties. Some fields averaged 300 to 500 mites per linear foot. (DePew). Light to moderate infestations ranging from 5 to 100 per linear foot in Hodgeman, Pawnee, Barton, Rice, McPherson and Marion Counties. (Frazier). OKLAHOMA - Light populations averaging 100 to 250 per linear foot of drill row in Caddo County. Populations heavy or severe from Dewey County west through panhandle area. Thirty-five of 45 wheat fields inspected were infested with populations from 200 to 2,000 per linear foot. (Frazier, March 17). Populations of over 100 per linear foot common in Logan and Kingfisher Counties with slightly lower populations in Canadian County. Heavy populations from a field of volunteer wheat in Carter County. (Coppock).

WINTER GRAIN MITE (Penthaleus major) - MISSOURI - Very light numbers present in small grains over southwest area. Counts averaged 0.5 per foot of barley. (Kyd, Thomas).

CORN LEAF APHID (Rhopalosiphum maidis) - TEXAS - Light, widespread populations on barley in Kaufman County. (Hawkins).

FALL ARMYWORM (Laphygma frugiperda) - TEXAS - Medium to heavy populations feeding in the bud of sweet corn. (Wene, Deer).

EUROPEAN CORN BORER (Pyrausta nubilalis) - SOUTH DAKOTA - Surveys in east-central counties indicate mortality of 34 percent in fields. This figure 9 percent higher than same period of 1955. (Hantsbarger). ILLINOIS - Sixty to 75 percent of borers were living in stalk fields. This compares with 70 to 80 percent one year ago. (Petty et al.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - ILLINOIS - A few, 10-90 per 100 sweeps in six of 15 grass fields examined. (Petty et al.).

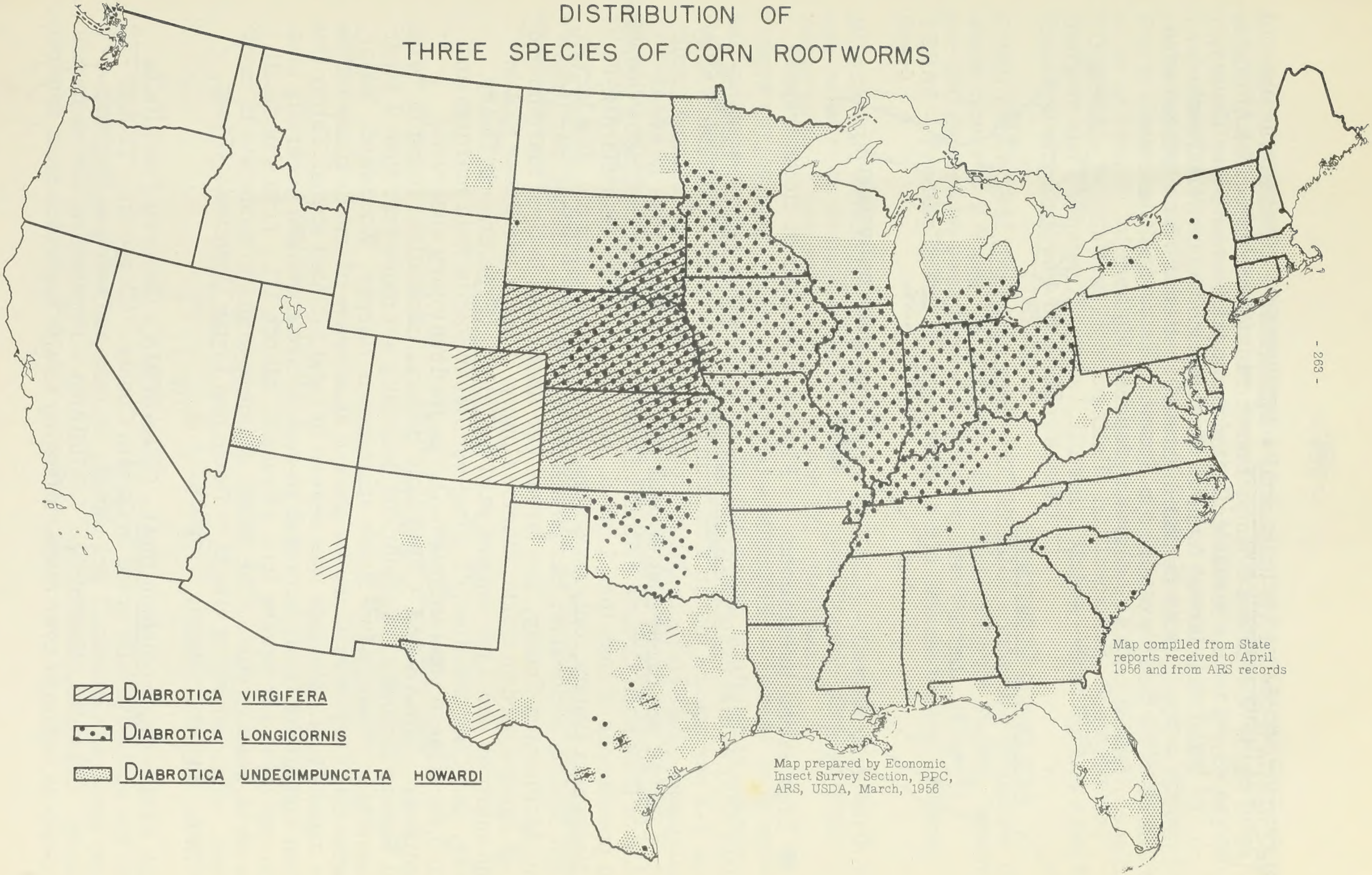
CUTWORMS - MISSISSIPPI - Forty-seven Agrotis gladiaria larvae collected in fields, March 14, in Oktibbeha County. (Hutchins). TEXAS - Heavy, widespread populations destroying seedling grain sorghum in San Patricio County. (Pawlik).

FALSE WIREWORMS (Eleodes spp.) - KANSAS - Populations of 2 larvae per linear foot in wheat fields in Barton and Rice Counties. (Gates, Frazier).

SUGARCANE BORER (Diatraea saccharalis) - LOUISIANA - The borer infestation in Louisiana's 1955 sugarcane crop averaged 24 percent of the joints bored. The crop loss is estimated to be three-fourths of this percentage, or 18 percent. As the sugarcane crop in the State had a value of about $40 million, the monetary loss amounted to approximately $7 million. In 1954, 20 percent of the joints were bored, in 1953 and 1952 the percentage was 28, and the average for the last 21 years was 16 percent. The 1955 infestation was surprisingly high in view of its slow development in the spring. (C. & F. Ins. Sect.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ARKANSAS Infestations are light, but survival approaches 100 percent in many fields. (Warren).

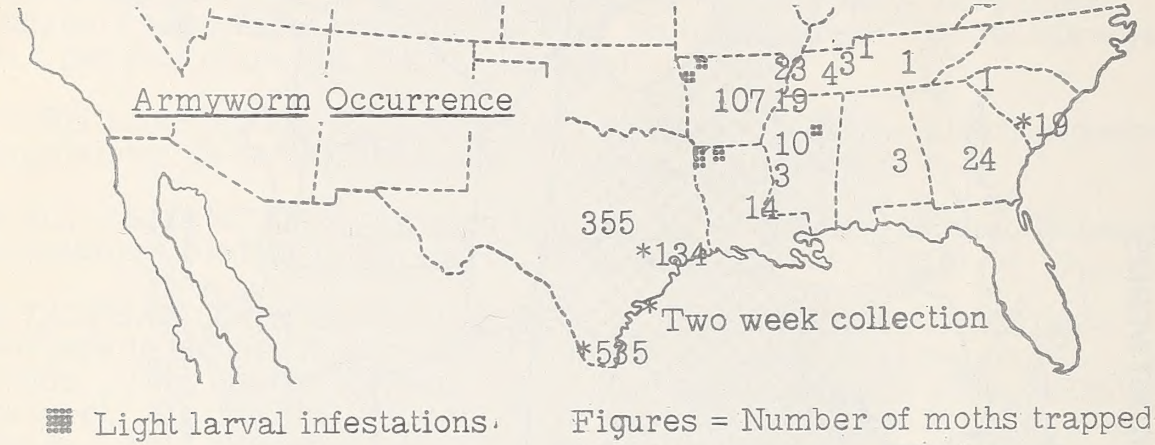
DISTRIBUTION OF THREE SPECIES OF CORN ROOTWORMS



Map compiled from State reports received to April 1956 and from ARS records

Map prepared by Economic Insect Survey Section, PPC, ARS, USDA, March, 1956

ARMYWORM (Pseudaletia unipuncta) - MISSISSIPPI - Two larvae collected in fields Oktibbeha County, March 14. (Hutchins). ARKANSAS - Third and fourth instar larvae collected from grasses in Boone County, March 8. Additional larvae found in Washington County. (Warren). LOUISIANA - Populations remain light and scattered over northern area with three of 16 fields examined in Bossier, Caddo and Claiborne Parishes, having only a few larvae present. (Oliver).


Armyworm Occurrence

*Two week collection

▦ Light larval infestations. Figures = Number of moths trapped

ARMY CUTWORM (Chorizagrotis auxiliaris) - NEBRASKA - Ranging from 2-3 per square foot in alfalfa and wheat fields in Republican Valley. (Andersen). KANSAS - In Saline County, six wheat fields showed counts of 1-4 larvae per linear foot of drill row. Very few larvae in wheat fields of Dickinson County. Alfalfa fields in Saline and Dickinson Counties had populations of less than 1 larva per square foot. (Burkhardt). In Hodgeman County, only occasional larva; Pawnee County, few larvae, slight feeding noticeable; Barton and Rice Counties, 1 larva per linear foot; McPherson County, 2-4 larvae per linear foot in field margins and 5 per square yard in fields; Marion County, 1 larva per linear foot in field margins and 3 per square yard in fields. (Frazier). In Geary, Riley, and Clay Counties, 0.5 to 1 per linear foot in field margins and 2 to 5 per square yard in fields. Little feeding injury observed. (Matthew). OKLAHOMA - Very light general infestations found in Texas and Beaver Counties. Populations generally averaged less than 0.5 per square foot. Twenty-five fields examined in Harper, Woodward, Major, Blaine and Kingfisher Counties showed an average of one or more larvae per square foot. Damage was severe in local isolated areas. Thirty five wheat and alfalfa fields surveyed in central areas showed generally less than one larva per square foot. (Frazier, March 17). Active in small grains in western part of the State. Damage slight to moderate in most areas. Also damaging alfalfa in Noble and Logan Counties. (Flora, Latham, Hudson, Owens, Coppock).

PEA APHID (Macrosiphum pisi) - OKLAHOMA - Occurring on alfalfa with the spotted alfalfa aphid in Garvin County. (Coppock). TEXAS - Light local populations, 1 per sweep, on oats and vetch in Kaufman County. (Hawkins, Randolph). LOUISIANA - Populations are moderate to heavy in legumes over State, attacking alfalfa and vetch most severely.

(Oliver). MISSOURI - Heavy populations causing considerable injury to alfalfa in extreme southwestern counties. Field counts average from 100 to 350 per crown in Jasper, Newton, McDonald, Barry, Stone and Lawrence Counties. Counts of 25 to 100 per crown were found in scattered fields of Christian, Greene, Polk, Barton, Vernon, Bates and Pettis Counties. In the area of heavy infestation, seedling stands appear to be as heavily infested as established stands. (Kyd, Thomas). VIRGINIA - Populations light on alfalfa in Gloucester, Spotsylvania, Hanover and Fauquier Counties. (Rowell, Muka). Also light in Amelia (Holmes) and Nottoway Counties (Cassell).

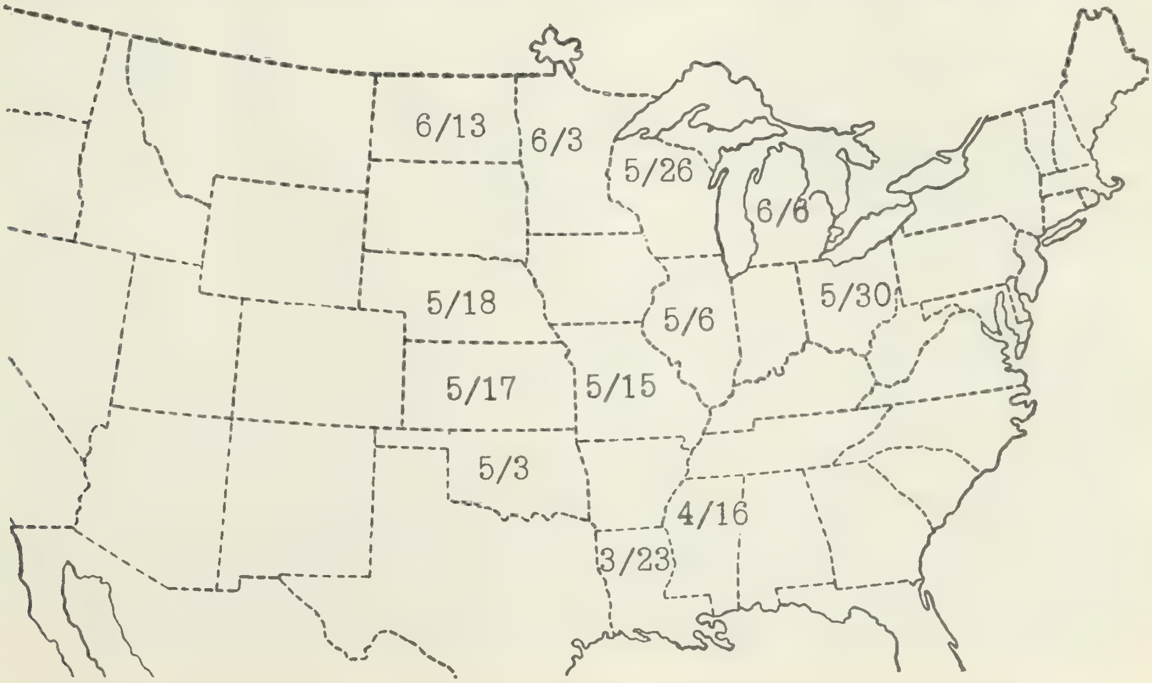
CORN EARWORM (*Heliothis zea*) - LOUISIANA - Infesting 280 acres of white clover at 2-7 per 100 sweeps. In Jefferson Davis Parish, twelve per 100 sweeps on sweetclover in Plaquemines Parish. (Oliver). TEXAS - Feeding in bud of sweet corn in Rio Grande Valley. (Wene, Deer).

BLACK CUTWORM (*Agrotis ypsilon*) - NEVADA - Larvae one-fourth to one-half grown damaging alfalfa fields in Lyon County. Infestations range up to 18 per square yard, March 17. (Gallaway).

DINGY CUTWORM (*Feltia subgothica*) - MISSOURI - Larvae up to one-half grown averaged approximately one per crown of alfalfa in grassy fields of the southwest area. (Kyd, Thomas).

VARIEGATED CUTWORM (*Peridroma margaritosa*) - LOUISIANA - Infesting white and crimson clover in Washington Parish at about 1 per 10 square feet. (Oliver).

POTATO LEAFHOPPER (*Empoasca fabae*) - First reported appearance by states - 1955.



THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - LOUISIANA - Infesting alfalfa at 4 per 100 sweeps in Natchitoches Parish. (Oliver).

TARNISHED PLANT BUG (Lygus lineolaris) - NEBRASKA - Emerging from hibernation. Populations light and widespread in the Republican Valley. (Andersen). LOUISIANA - Populations on the increase in alfalfa in Caddo, Bossier and Natchitoches Parishes with 4-16 per 100 sweeps, some being in the nymphal stage. (Oliver). ILLINOIS - Adult population in southern forage crop fields ranged from 0.1 to 0.5 per square foot. (Petty et al.).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - NEBRASKA - Emerging from hibernation. Population very light in alfalfa fields in the Republican Valley area. (Andersen).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - LOUISIANA - Found in alfalfa at 16 per 100 sweeps in Caddo Parish and 6 per 100 sweeps in Natchitoches and Red River Parishes. (Oliver).

CLOVERWORMS (Plathypena scabra and Autographa biloba) - LOUISIANA Infesting clover at 5 per 100 sweeps in Washington Parish, 12 per 100 sweeps in Tangipahoa Parish, 23 per 100 sweeps of alfalfa in Natchitoches Parish and 12 per 100 sweeps of alfalfa in Rapides Parish. (Oliver).

SPOTTED ALFALFA APHID - CALIFORNIA - Light in San Bernardino County. No damage yet in Kings County. (Calif. Coop. Rept.). ARIZONA - Populations apparently much lower than last year at this time. South of Eloy, 60 acres had economic infestations and 340 acres had light infestations March 18. Sweepings in Safford showed very light population, 10 per 100 sweeps, and Patagonia sweepings showed moderate infestation, 3-5 per sweep. Spot-checks in Greenlee, Graham, Cochise, Santa Cruz and Pima counties showed no aphids in most fields. (Ariz. Coop. Rept.). NEBRASKA - No aphids found in Republican Valley this past week. (Andersen). KANSAS - Three wingless adults and several small nymphs found in one small alfalfa field of central Wabaunsee County. This is first reported occurrence this far north since early January. Nowhere a problem at present. (Matthew). OKLAHOMA - Light local infestations in Oklahoma, Lincoln and Canadian Counties. Severe damage to stands of alfalfa in Pottawatomie, Cleveland, McClain, Grady and Caddo Counties, March 17. (Frazier). Heavy to severe damage to alfalfa in Garvin, McClain, Cleveland, and part of Grady Counties. Portions of many fields destroyed. Surrounding counties have heavy aphid infestations. (Flora, Bower, Rogers, Coppock). TEXAS - Heavy and widespread on alfalfa in Brazos and Burleson Counties, causing extremely heavy damage. (Randolph). ARKANSAS - Infestations remained low past 3 weeks. Weather conditions have prevented buildup of economic infestations. (Warren). LOUISIANA - Populations have increased considerably in alfalfa in Caddo, Bossier, Natchitoches and Red River Parishes. Tremendous populations of lady beetles, (primarily Hippodamia convergens), exist in the same alfalfa fields. (Oliver). MISSOURI -

Very light numbers, 1 to 4 per crown, present in most alfalfa fields of Barton, Jasper, Newton, McDonald, Barry, Lawrence, Dade, Polk, Greene, Christian and Stone Counties. Very few adult aphids found. Seedling alfalfa apparently clean of infestations. (Kyd, Thomas).

CLOVER ROOT CURCULIO (Sitona hispidula) - MISSOURI - Adults, 1 to 3 per square foot, beginning to appear in established fields of alfalfa in southwest area. (Kyd, Thomas).

CLOVER LEAF WEEVIL (Hypera punctata) - MISSOURI - Injury becoming evident on red clover and alfalfa although larvae number less than last year. Counts averaged 1-2 per crown of red clover in west central area and 2-3 per crown of alfalfa in southwest area. Larvae range up to one-half grown. (Kyd, Thomas). LOUISIANA - Heavy populations of 20 per square foot in burclover and crimson clover in several areas of Concordia Parish. Populations of 3-5 per square foot of crimson clover in Washington and Tangipahoa Parishes. (Oliver). ILLINOIS - Larval population averaged 22.8 per square foot in southeast Illinois, 4.4 in east northeast, 8.3 in southwest, and 1.67 in west southwest. (Petty et al.). NORTH CAROLINA - Local infestation in Surry County lightly damaging alfalfa. (Jones). VIRGINIA - Light to medium in alfalfa fields in Amelia County. (Holmes).

ALFALFA WEEVIL (Hypera postica) - NEVADA - Adults emerging from hibernation and becoming active with warm weather, March 17. (Gallaway). UTAH - Survival appears to be high at Logan. (Knowlton). VIRGINIA - Adults and first-instar larvae light in Gloucester County. (Muka, Rowell). Adults active in Amelia County. (Holmes).

CLOVER MITE (Bryobia praetiosa) - MISSISSIPPI - Causing severe damage to clover in a 125 acre pasture in Hancock County. (Lee).

FRUIT INSECTS

CATFACING INSECTS - ILLINOIS - First tarnished plant bug jarred, March 20, from 5 trees in an uncared-for orchard in the Carbondale area. (Chandler). INDIANA - In one orchard in the Vincennes area two tarnished plant bugs were taken and in another two stink bugs were found, March 19. (Hamilton).

GREEN PEACH APHID (Myzus persicae) - WASHINGTON - Eggs began hatching on peach at Parker about March 17, and 10 percent hatched by March 19. This is the latest hatching observed for past 7 years. Eggs moderately abundant. (Landis).

PLUM CURCULIO (Conotrachelus nenuphar) - GEORGIA - First adult of season jarred from a peach tree, March 13. This was a female with egg formation well under way. Although peach trees jarred from February 20 to March 13 and weather conditions have been favorable this was the only specimen found. The indication to date is that the infestation will be very light this year as a result of light over-wintered population in the spring of 1955 and the complete absence of a peach crop last year. (Johnson). TEXAS - Heavy local populations on plums in Houston County. (Nix).

WESTERN PEACH TREE BORER (Sanninoidea exitiosa graefi) - CALIFORNIA - Severe on flowering dwarf peach trees in Alameda County. (Cal. Coop. Rept.). WHITE PEACH SCALE (Pseudaulacaspis pentagona) NORTH CAROLINA - Moderate infestation in a peach orchard in Guilford County. (Jones). FLORIDA - Eggs and adults averaging 30 per square inch of mango bark in Volusia County. (Roberts, Mar. 15).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Following counties surveyed: Cleveland, Garvin, Carter, Love, Marshall, Johnston, Pontotoc, Seminole, Okfuskee and Lincoln. A total of 2900 pecan tips (end 6 inches of branches) checked. Average infestation was 0.6 percent with Garvin County showing the highest infestation, 1.4 percent. (Bieberdorf, Coppock).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - A few live larvae in pecans on ground in an orchard in Okfuskee County, March 22. (Coppock).

TRUCK CROP INSECTS

CABBAGE APHID (Brevicoryne brassicae) - GEORGIA - Heavily infesting cabbage in Thomas County, light in Colquitt and Lowndes Counties. (Johnson). SOUTH CAROLINA - Light to moderate in most commercial spring cabbage plantings in Charleston area. Control used in some cases. Natural enemies holding pest in check in two plantings. (Cuthbert, Reid, Feb. 23).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Major problem in cabbage fields in Rio Grande Valley. (Wene, Deer). FLORIDA - One larva found on tobacco at Quincy. (Tappan).

IMPORTED CABBAGEWORM (Pieris rapae) - GEORGIA - Heavy on cabbage in Colquitt County, light in Lowndes and Coffee Counties. (Johnson).

SEED-CORN MAGGOT (Hylemya cilicrura) - SOUTH CAROLINA - Destroying seeds of snap beans in Jasper County. Heavy infestation on soil with vegetables turned under. (Tate, March 15).

MELONWORM (Diaphania hyalinata) - TEXAS - Damaged few fields of cantaloups in Rio Grande Valley. (Wene, Deer).

APHIDS - TEXAS - Spotted heavy in some cantaloup fields and problem in many cabbage fields in Rio Grande Valley. (Wene, Deer).

LEAFHOPPERS - Problem in practically all cantaloup fields in Rio Grande Valley. (Wene, Deer).

POTATO PSYLLID (*Paratrioza cockerelli*) - TEXAS - Destructive numbers in one field of potatoes in Rio Grande Valley. (Wene, Deer).

GARDEN FLEAHOPPER (*Halticus bracteatus*) - FLORIDA - Adults averaging 1-5 per leaf on Irish potato, Indian River County, March 12. (Burnett).

TOMATO FRUITWORM (*Heliothis zea*) - TEXAS - Damage in many fields of tomatoes in Rio Grande Valley. (Wene, Deer).

STINK BUGS - TEXAS - Damaging many tomato fields in Rio Grande Valley. (Wene, Deer).

ONION THRIPS (*Thrips tabaci*) - GEORGIA - Heavily infesting onions in Coffee County. (Johnson).

SPIDER MITES (*Tetranychus* spp.) - LOUISIANA -Populations of *T. lobosus* and *T. desertorum* on strawberries increased considerably, Tangipahoa Parish. (Oliver).

FIELD CRICKET (*Acheta assimilis*) - LOUISIANA - Feeding on ripe strawberry fruits causing a considerable amount of culls in Tangipahoa Parish. (Oliver).

RASPBERRY ROOT BORER (*Bembecia marginata*) - PENNSYLVANIA - In roots of raspberry, Erie County, March 4. (Adams).

GREEN PEACH APHID (*Myzus persicae*) - FLORIDA - Nymphs and adults averaging 100 per leaf of tobacco at Quincy, March 15. (Tappan). LOUISIANA - Infesting about 20 acres of beets in Rapides Parish, averaging about 6 per plant. (Oliver).

APHIDS - GEORGIA - Light to moderate on tobacco plant beds in Lanier County, light in Lowndes County. (Johnson).

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - GEORGIA - Heavy on tobacco beds in Colquitt and Thomas Counties, moderate to heavy in Worth County, light to moderate Tift, Coffee and Treutlen Counties and light in Lowndes County. (Johnson).

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - GEORGIA - Heavy infestations on tobacco beds in Colquitt and Thomas Counties, moderate to heavy in Worth County, light to moderate in Tift, Coffee and Treutlen Counties and light in Lowndes County. (Johnson). Larvae and adults heavily infesting cabbage, English peas and turnips in Crawford County. (Harvey). FLORIDA - Larvae averaging 2 per plant on tobacco at Quincy. About 50-60 plants per bed infested. (Tappan, March 15). ALABAMA - Unusually heavy in southern area. (Owen).

COTTON INSECTS

Boll Weevil Hibernation and Survival Counts, Mississippi

Examinations of 100 woods trash samples from Washington County, 2/27 - 3/13, showed an average of 2178 live weevils per acre. This compares with an average of 1646 found in 50 samples in spring, 1955. Number per point ranged from 0-12,324. An average of 748 live weevils per acre were found in 166 samples collected in 10 other counties. In five hill counties, 66 samples showed an average of 1065 weevils per acre. An average of 1355 weevils per acre were found in 200 samples from six delta counties. Survival from comparable points ranged from 6.25 to 100 percent and averaged 33.33. (Merkl, Furr, Watkins, King et al.).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Results of inspections in 88 counties in eastern third of State are favorable compared with last season. In 1955 surviving pink bollworms found at average rate of 165 per acre compared with 26 for 1956; surviving larvae per 100 bolls in 1955 were 7.25 compared with 4.59 in 1956. The more general decreases are being found in central counties and in counties of Brazos and Colorado River Valleys where heavy increases were found in 1955. Some increase found in counties in north central part of State. (Pink Bollworm Control Project).

CUTWORMS - TEXAS - Continue to be principal cotton insect problem in the Lower Rio Grande Valley. Infestations spotted but severe. (Deer).

SPIDER MITES - TEXAS - Three infestations in seedling cotton, one north of Raymondville and two near Rio Hondo, in Lower Rio Grande Valley. (Deer).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

APHIDS (Cinara sp.) - ALABAMA - Attacking pine trees in several localities in southern area. (Good).

PALES WEEVIL (Hylobius pales) - GEORGIA - Destroyed 30-40 young pines in yard in Worth County. (Johnson).

JUNIPER SCALE (Diaspis carueli) - PENNSYLVANIA - Severe infestation on ornamental planting of juniper, Greene County. (Udine).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - VIRGINIA Hatching on flowering crab apples at Richmond, week of March 12. Infestations light. (Morris).

COTTONY-CUSHION SCALE (Icerya purchasi) - SOUTH CAROLINA - Found in great numbers on boxwood at Greenwood. (Nettles).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE LICE - UTAH - Very severe in Wasatch County in most herds untreated last fall. (Daniels, Knowlton).

Livestock Pest Situation, Illinois

Of 84 dairy cattle examined (in 13 herds) 45 percent infested with lice. Of 111 head of beef cattle (10 herds) 57 percent infested. Of 81 head of dairy cattle (9 herds) and 106 beef cattle (10 herds) no mange lesions found. Of the 81 dairy cattle (13 herds) 10 percent had cattle grubs averaging 0.9 per animal. Of the 115 beef cattle (10 herds) 59 percent had grubs with an average of 3.9 per animal. (Petty et al.).

HOG LOUSE (Haematopinus suis) - UTAH - Severely infesting hogs locally in Cache County. (Knowlton).

LONE STAR TICK (Amblyomma americanum) - ARKANSAS - Fully engorged females collected from cattle in northwestern area, week of March 5. (Warren).

HOUSE FLIES - ARIZONA - Fly, mainly Musca domestica, population indices of two small towns in southeastern Maricopa and northwest Pinal Counties: average of five highest grill counts in 9 blocks for March 4-10: 65.6; March 11-17: 39.4. (Ariz. Coop. Rept.).

STORED PRODUCTS INSECTS

A TINEID - OREGON - Found infesting several hundred pounds of cottonseed at a feed mill in Portland, March 9. (Capizzi).

MISCELLANEOUS INSECTS

STONEFLIES - INDIANA - The greatest abundance of reports of this species in 45 years in the Lafayette area. Frequently buildings were covered with the adults. (Davis).

BOXELDER BUG (Leptocoris trivittatus) - INDIANA - Annoying in houses throughout the State. (Davis).

TERMITES - VIRGINIA - Flights observed in many parts of State. (Morris).

ADDITIONAL NOTES

DELAWARE - ALFALFA WEEVIL - Adults feeding late February or early March on new alfalfa at Bombay Hook and Summit Bridge. Feeding, egg laying and hatching retarded by weather. CLOVER LEAF WEEVIL - Larvae active on new alfalfa and red clover generally, March 22. APPLE GRAIN APHID - Hatching on apple at Bridgeville, March 15. Numerous. (Stearns)

LIGHT TRAP COLLECTIONS

	Pseudal.	Prod.	Agrotis	Perid.	Feltia	Heliothis		Tricho-
	unipunc.	ornith.	ypsilon	marg.	subt.	zea	vires.	plusia ni
TEXAS								
College Station 3/16-22	355	2	6	31		2		2
Weslaco 3/1-15	535	76	112	161		1301	17	878
Winter Haven 3/1-15	66	25	9	22		135	1	3
Beaumont 3/1-15	134	68	34			164		
LOUISIANA								
*Tallulah 3/17-23	12	1	6	3	1	1		
Baton Rouge 3/17-23	14	2	11	2	16	2		1
ARKANSAS								
Stuttgart 3/2-21	107		61					
Varner 3/1-7	6		12	7				
MISSISSIPPI (Counties)								
*Washington 3/16-22	3		1					
Oktibbeha 3/17-23	7		3	10				
Coahoma 3/17-23	19		18	15				
Humphreys 3/17-23	10		5	17				
Lauderdale 3/17-23			2	1	1			
Copiah 3/17-23	3			1				
TENNESSEE (Counties)								
Shelby 3/13-19	23		3	10		1		
Madison 3/13-19		1		1				
Lawrence 3/13-19	4		1	1				
Maury 3/13-19	3		4	4				
Robertson 3/13-19	1							
Cumberland 3/13-19	1			1				
Knox 3/13-19			1					
ALABAMA								
Auburn 3/13-24	3							
GEORGIA (Counties)								
Tift 3/10-17	24		4		11			
Spalding 3/10-16		2			1			
SOUTH CAROLINA (Counties)								
Oconee 3/10-17	1	6	1					
Charleston 2/27-3/11	19	1	10		26			

*Three traps at Tallulah, two in Washington County

SUMMARY OF INSECT CONDITIONS - 1955

VERMONT

Reported by J. W. Scott

General Insects

MEADOW SPITTLEBUG (Philaenus leucophthalmus) was common in grasses throughout the State. One test in birdsfoot trefoil seed production showed an increase of 15 pounds of seed where spittlebug was controlled. MEXICAN BEAN BEETLE (Epilachna varivestis) was of a fairly high population. GRASSHOPPERS (Melanoplus spp.) were reported causing considerable damage in Windham County. A PRAYING MANTIS (probably Mantis religiosa) was abundant in many parts of the State. JAPANESE BEETLE (Popillia japonica) trap surveys indicate more extensive spread in Burlington area and a small infestation in Barre.

Forest Insects

FOREST TENT CATERPILLAR (Malacosoma disstria) population was reduced to very low level with no noticeable damage. GYPSY MOTH (Porthetria dispar)- Disease and unfavorable spring weather reduced this insect on easterly side of State, but more recent infestations in the southwesterly part of State caused noticeable defoliation in 8,375 acres. SATIN MOTH (Stilpnotia salicis) continued to cause defoliation at widely scattered points. EASTERN TENT CATERPILLAR (Malacosoma americanum) was abundant in some areas but its development was retarded. MAPLE LEAF CUTTER (Paraclemensia acerifoliella) was heavy in many maple stands but apparently did not interfere with tree growth. PINE LEAF APHID - Heavy flights appeared state-wide in spring. BEECH SCALE is firmly established in parts of the Green Mountain National Forest. BIRCH LEAF MINER (Fenusa pusilla) reached moderate to heavy proportions mostly in gray birch and ornamentals. WHITE PINE WEEVIL (Pissodes strobi) continues to hamper prospective white pine quality.

Insects Affecting Man and Animals

Mosquitoes (Aedes spp.)- Spring flood mosquito broods were heavy as a result of warm weather and high water. Heavy rains in August produced a smaller brood of floodwater Aedes vexans and A. sticticus in late August. HORN FLY (Siphona irritans), STABLE FLY (Stomoxys calcitrans), HORSE FLIES (Tabanus spp.) and HOUSE FLY (Musca domestica) were present in large numbers as a result of hot weather.

SUMMARY OF INSECT CONDITIONS - 1955

WISCONSIN

Reported by Wisconsin Cooperative Economic Insect Survey

Field Crop Insects

The second brood of EUROPEAN CORN BORER (Pyrausta nubilalis) was favored by good conditions for survival. Fall survey figures gave Wisconsin an average of 82 borers per 100 plants, which is nearly three times averages of 27 and 28 borers per 100 plants that occurred in 1953 and 1954. Over 53 percent of all corn in State was infested with borers in 1955. The most heavily infested areas were in southwestern Wisconsin with south central and west central having populations somewhat less. Northern and eastern portions had lowest borer populations. There was more breaking over of stalks below the ears and above the ears and also more ears fell to the ground than for many years. While stalk rot was generally prevalent in fields and caused much breakage, about 14 percent of the stalks were broken at a point where a borer had worked. Five percent was broken over below the ear and 9 percent above the ear. At least 95 percent of the live borers were mature before winter. Lydella pupae and empty puparia were more plentiful at the time of fall survey than in previous years. CORN EARWORM (Heliothis zea) generally infested both sweet and field corn in 1955.

RED-LEGGED GRASSHOPPER (Melanoplus femur-rubrum) and others caused an estimated loss of 5 1/2 million dollars in hay and pastures in Wisconsin in 1955. Over 1 million of the 4 million acres of hay were infested. Tobacco, corn and other crops were also infested and damaged. There was a heavier grasshopper population in southern and western Wisconsin than in 1954 and a lighter infestation in the northern and northeastern part of the State. This placed the adult grasshopper population in heaviest alfalfa growing areas. Egg pods are easy to find in the infested areas. Egg parasites while present did not seem numerous enough to significantly reduce the 1956 potential. DIFFERENTIAL GRASSHOPPER (M. differentialis) increased in population in 1955. MIGRATORY GRASSHOPPER (M. mexicanus) population was significant in 1955 but less than in 1954. TWO-STRIPED GRASSHOPPER (M. bivitattus) and M. confusus populations were lighter in 1955 than in 1954. Early hatching did not occur in 1955 which greatly altered the threatening potential. Two factors appear to have been responsible. (1) There was a heavy growth of legumes and grass in October, 1954. This covered the ground somewhat as an insulating layer and the sun could not raise soil temperature as rapidly as it usually does. (2) There was a prolonged period of rainy, cold weather in June 1955 which also retarded hatching. In a few fields there were some very high counts of first and third instar grasshoppers as first crop hay was about to be harvested. Most of hatching was delayed until second crop was approaching maturity. POTATO LEAFHOPPER (Empoasca fabae) and other leafhoppers generally infested alfalfa and potatoes. First crop hay was not injured a great deal. There was a late (August) buildup in leafhopper populations which was greater than in 1954.

Exceptionally good growing conditions for early hay minimized MIRID damage. Alfalfa plant bug (Adelphocoris lineolatus), rapid plant bug (A. rapidus) and tarnished plant bug (Lygus lineolaris) generally infested alfalfa, strawberry plantings and some ornamentals. MEADOW SPITTLEBUG (Philaenus leucophthalmus) generally infested alfalfa and strawberry plantings in eastern and southern areas. ENGLISH GRAIN APHID (Macrosiphum granarium) and other aphids heavily infested oats and barley the latter part of May and the first part of June. They caused losses by feeding and also by transmitting virus diseases (especially in barley). MEXICAN BEAN BEETLE (Epilachna varivestis) was reported doing damage to garden beans in Dane County in 1955. This pest has never been reported outside of Dane County, although reports of its presence in Dane County cover a period of about eight years. It is a potential threat to Wisconsin's rapidly growing processing crop of lima beans which begins within 25 miles north and east of the reported infestations. ARMYWORM (Pseudaletia unipuncta) was relatively unimportant in 1955. There was one report of damage and treatment at Arlington during the first part of June. Rye which may have acted as a trap crop was most heavily infested. Corn in the immediate vicinity was lightly infested. POTATO FLEA BEETLE (Epitrix cucumeris) infested about 50 percent of Wisconsin's potato acreage in 1955 and was a major pest of potatoes. PEA APHID (Macrosiphum pisi) generally infested canning peas and was the most important insect affecting vegetable processing crops in 1955. CABBAGE LOOPER (Trichoplusia ni) caused a 20 to 25 percent loss in cabbage production which is estimated to be $500,000.

Tree Insects

Defoliation of hardwoods by the high but declining population of the FOREST TENT CATERPILLAR (Malacosoma disstria) over about 8 million acres in northern Wisconsin continued to reduce the normal rate of increment. Decreased efficiency resulted when they dropped on workmen in these wooded areas in May-June. The forest tent caterpillar was followed by high populations in some localities of its principal parasite, Sarcophaga aldrichi in July. These flies were a nuisance to residents and tourists but caused most annoyance on warm days. JACK-PINE BUDWORM (Choristoneura pinus) extended the area it infests (principally in northeastern Wisconsin) to about 120,000 acres. EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) was found infesting pines in southeastern Wisconsin. Counties where this insect has been found infesting pines include Milwaukee, Racine, Kenosha, Ozaukee, Manitowoc, Dodge, Washington, Fond du Lac, Waukesha, Columbia, Walworth, and Rock. This moth threatens to become more of a problem on forest as well as ornamental species.

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus), a vector of Dutch elm disease, was collected from elms in Racine, Milwaukee, Kenosha, Walworth, Rock, Green, Grant, Sauk, Dane, Jefferson, Columbia, Washington, and Ozaukee Counties. SARATOGA SPITTLEBUG (Aphrophora saratogensis) damaged pine plantations chiefly from the central to the eastern part of northern Wisconsin. PINE TORTOISE SCALE (Toumeyella numismaticum) was a problem principally in two areas: the Eau Claire area and northeastern Wisconsin. WHITE-PINE WEEVIL (*Pissodes strobi*) while generally a pest of white pine in the northern one-half of the State was heavy in 1955. In addition, it also attacked Norway and jack pine. The area where the EUROPEAN PINE SAWFLY (*Neodiprion sertifer*) was first reported in Wisconsin in 1954 was treated. There were no new reports of this insect's presence in 1955. LARCH SAWFLY (*Pristiphora erichsonii*) and the LARCH CASEBEARER (*Coleophora laricella*) generally infested larch stands in the northern one half of Wisconsin.

Insects Affecting Animals and Man

HOUSE FLY (*Musca domestica*), STABLE FLY (*Stomoxys calcitrans*), HORSE and DEER FLIES and MOSQUITOES of the AEDES group were troublesome throughout the State in 1955.

Household Insects

An increase in the number of inquiries about SILVERFISH and CARPET BEETLES was noted in 1955 along with the CASEMAKING CLOTHES MOTH (*Tinea pellionella*). The area the BROWN-BANDED ROACH (*Supella supellectilium*) infests was greater than in 1954. Most noticeable was the increase of homes infested with PHAROAH ANT (*Monomorium pharaonis*).

Fruit Insects

APPLE MAGGOT (*Rhagoletis pomonella*) was an important pest of apples in 1955.

Stored Grain Pests

In 1955 there was a large number of granaries infested with grain pests, many of which were treated.

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